

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

FURTHER REMARKS ON THE CHINESE ALLIGATOR

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IN 1910 I published 'A Note Regarding the Chinese Alligator' in the Proceedings of the Academy of Natural Sciences of Philadelphia (1910, pp. 464-467) which summarized our previous knowledge of the animal. At that time the specimen in the Museum of Comparative Zoölogy was the only one in an American museum. There is now another beautiful mounted example on exhibition in New York in the Museum of Natural History. Since 1910 the creature has not been conspicuous in the literature. In fact I cannot recall that it has been mentioned at all.

When over a year ago the Wulsin expedition to explore China took the field under the auspices of the Museum of Comparative Zoölogy, Mr. F. R. Wulsin was specially besought to secure alligators. This he did. Working quietly, very economically and with no publicity, he accomplished fine results.

One Ho Ting-Sho, a Chinese assistant, was sent to Wuhu on the Yangtze, and by dint of skilful collecting he secured a beautiful suite of individuals, both young and old.

The most striking feature is the juvenal coloration. Boulenger's figure (P. Z. S., 1890, pl. 51) gives no idea of the brilliant markings of the head of the very young, really extremely similar

to Florida alligators of the same size. The body bands are quite similar, the yellow stripes being, in the Chinese, somewhat wider on the tail and fewer in number, eight as against ten or eleven, while on the body there are usually only five bands instead of six. The head is more yellow, with somewhat bolder, dark markings, but the principal color blotches may be similarly identified in both forms. The sides of the head and lips in the oriental species are also rather more boldly clouded than in our familiar form.

In external features the Wulsin series exhibits very little variation. The six large nuchal scutes are very constant, the first pair heavily developed. The long reversed crescentic series of post-occipital plates is present in every individual, and our series shows no such variability as is mentioned by Boulenger (l. c., pp.619-620). The markings are gradually lost with age, until the creatures become dull, muddy brown, probably blackish in life, like our alligators. Boulenger was the first to point out the Jacaré-like character of the bony ossicle in the eyelid and the ossification present in the ventral shields. These characters, taken in connection with the conspicuous divergence in squamation, make the species *A. sinensis* Farvel markedly distinct. The important point to be remembered, however, is that, notwithstanding these structural differences, obviously fundamental and betokening a considerable period of isolation of the stocks, the style of coloration is almost the same. The color pattern is vastly more conservative and immutable than many other somatic features. It is more and more evident that the bony structures are more directly affected by the creatures' habits and environment, and by some evolutionary process or other are subject to radical change in relatively short geological periods of time. The change of form of skull and its relation to feeding habits, pointed out by H. Lang for African squirrels, is a case in point. What may be the evolutionary process which activates these changes, or accentuates them, is hardly worth guessing. Alexander Agassiz never spoke more truly than when he said

that natural selection might explain the survival but never the arrival of a character, and that some cumulative and more mechanical or physical process passed on by inheritance must be invoked. The important feature here is the conservative coloration contrasted with the various differences in structure which have arisen since the two alligators parted company. In these creatures color plays little part in their welfare. Their enemies are few, and as long as they are not so markedly conspicuous that their prey becomes more difficult to capture, color and pattern are probably in no wise brought into desirable variability. The Chinese species, at present at any rate smaller in size, has developed somewhat better armor and somewhat more powerful jaws than its American congener.

Mr. Wulsin's notes, based on Mr. Ho's experiences, show that all the 'gators were caught in their dens in the mud. We are told, with true Chinese precision, that each den has three holes, one for breathing (noisily), one for eating and one for sleeping! We are further told that tortoises climb upon the alligators' heads, thinking that they have found some inanimate support, whereupon the 'gator opens his mouth, raising his head slowly the while. The turtle foolishly keeps creeping upward and finally having scrambled to the tip of the snout, a quick movement causes it to lose its balance and fall within the hungry jaws. Wulsin says that Mr. Ho swears this to be true, not that he has ever seen it take place but because of the confirmatory accounts of many credible witnesses.

More interesting is the news that now, owing to persecution, they do not crawl abroad to take the sun but emerge only at night to hunt ashore for chickens or small dogs.

The Chinese names are Yow lung and Tou lung, both combinations signifying a dragon.

In response to attempts to see whether perhaps the animal did not survive elsewhere than just in the densely populated lower Yangtze Valley, Wulsin gleaned the following. It may perhaps be considered somewhat apocryphal.

“An old man told Mr. Ho, long ago, that many years before alligators had existed by hundreds in an inlet from the sea, near Kwangzefu in Kwangtung. The alligators suddenly appearing in hordes they were called upon by the local mandarin in full official ceremonial robes. He asked for their passports and whether they understood him, adding that if they did not leave he would call upon his garrison to shoot at them the next day. All had departed by the following dawn.”

The largest specimen secured is about five feet in length.